UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,999	01/30/2001	Manabu Komatsu	R2184.0093/P093	8479

			EXAMINER
24998	7590	07/15/2005	PARK, CHAN S

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ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	**Applicant(s)**
		09/771,999	KOMATSU, MANABU
Office Action Summary		**Examiner**	**Art Unit**	
		CHAN S. PARK	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 January 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-15* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's amendment was received on 1/24/05, and has been entered and

made of record. Currently, **claims 1, 2 and 4-15** are pending.

Response to Arguments

2.   Applicant's arguments, see page 7, filed 1/24/05, with respect to the Objection

have been fully considered and are persuasive. The objection of the Specification has

been withdrawn.

3.   Upon review of the reference of Bollman (U.S. Patent No. 6,778,684), which was

cited in the Office Action dated 9/23/04 under 35 U.S.C. 102(e), as being anticipating

claims 1, 11 and 14, the examiner notes that the reference can still be interpreted as

anticipating the claims, as currently amended.

Particularly, as amended, claims 1, 11 and 14 now require "said background

information show[ing] a value based on a color as a reference in the uniform color

space of a single color forming image in an area where said drawing object is formed."

Before discussing the cited reference, it is respectfully noted that the **currently

amended Claims 1, 11, 14 and 15** are rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention. The claims recite that a value

based on a color is <u>shown</u> by said background information. It is uncertain as to whether

a number, a data or a value is displayed/shown in the apparatus. If it is

displayed/shown, where and how is it displayed/shown? Is the controlling of the

conversion related to the showing of the value? Or is the value simply transmitted, not

shown, to the controlling part for the conversion process? The examiner kindly

suggests using "indicates" instead of "shows" if this is what the applicant's intention of

claiming. Further, Examiner requests the applicant to specifically point out where in the

Specification the "showing or indicating a value" is disclosed.

Now, referring to the cited reference, Bollman teaches a method for extracting

background information for a background where said drawing object is formed (col. 5-

41-49), wherein said background information shows/indicates a value based on a color

as a reference in the uniform color space of a single color forming image in an area

where said drawing object is formed (col. 5, lines 41-62). It should be noted that based

on the extracted information of the background and the drawing object, both the

background and the drawing object are displayed. Further, Bollman teaches the

extracted information indicating the luminance of the background, which is represented

in the uniform color space. Since the value in the extracted background information is

inherently present in the image data and is extracted and transmitted to the controller

for the display, the reference of Bollman can still be interpreted as anticipating the

claims, as currently amended.

Furthermore, since Bollman teaches the method for processing image signal

based on image type and background information, and image output signal and a color

correction are controlled to obtain a compound document in which characters and line

drawings on the background color are clearly visible, one of ordinary skill in the art

would have been motivated to combine Bollman with Bottou and/or Wang which are

from the same field of endeavor of color image processing.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 1, 11, 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

The claims recite that a value based on a color is <u>shown</u> by said background

information. It is uncertain as to whether a number, a data or a value is

displayed/shown in the apparatus. If it is displayed/shown, where and how is it

displayed/shown? Is the controlling of the conversion related to the showing of the

value? Or is the value simply <u>transmitted, not shown,</u> to the controlling part for the

conversion process? The examiner kindly suggests using "indicates" instead of "shows"

if this is what the applicant's intention of claiming. Further, Examiner requests the

applicant to specifically point out and explain where in the Specification the "showing or

indicating a value" is disclosed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-6, 11 and 14 are rejected under 35 U.S.C. 102(e) as being

anticipated by Bollman U.S. Patent No. 6,778,684.

5.   With respect to claim 1, Bollman teaches a method for processing an image

signal, in which method input image information for an input image is converted into an

image forming controlling signal for an image forming apparatus (converted signal going

from image quality system 100 to image data sink 210 in col. 3, lines 17-26), said

method comprising the step of:

a.   controlling a conversion from said input image information into said image

forming controlling signal based on a type of a drawing object (col. 2, lines 29-31

& figs. 5-7) for the input image and background information for a background

where the drawing object is formed (col. 5, lines 41-49),

wherein said background information shows a value based on a color as a

reference in the uniform color space of a single color forming image in an area

where said drawing object is formed (col. 5, lines 41-49).

6.   With respect to claim 4, Bollman teaches the method as claimed in claim 1,

wherein when said image information for said drawing object indicates black or white

(determining the color of the character at step 672), said conversion to the image

forming controlling signal based on said background information is not controlled (color

acceptable (YES at S672) thus no conversion). It is apparent to one of ordinary skill in

the art that black image or text data do not require a tone change of the background

because the data do not have a similar tone to the background. Thus, the background

information is not controlled (col. 5, lines 50-56).

7.   With respect to claim 5, Bollman teaches the method as claimed in claim 1,

wherein when a color difference between color information for said drawing object and

background information in an area where said drawing object is formed is smaller than a

predetermined color difference, said conversion into the image forming controlling signal

based on said background information is controlled (col. 5, lines 50-56). Again, since

the system detects whether the background and foreground colors are similar, it is

apparent that the system has a threshold value or predetermined value to make the

comparison for the recommendation.

8.   With respect to claim 6, Bollman teaches the method as claimed in claim 5,

wherein said predetermined color difference is defined based on a character type, a

character size, a character style, a character color, a line type, a line thickness and a

part of or the entire line color (col. 5, line 50 – col. 6, line 13; col. 6, lines 33-34 & 51-62;

col. 7, lines 41-42).

9.   With respect to claim 11, Bollman discloses an apparatus for processing an

image signal, in which apparatus input image information for an input image is

converted into an image forming controlling signal for an image forming apparatus, said

apparatus comprising:

an object type determining part determining a type of a drawing object for an

input image (col. 2, lines 29-31 & figs. 5-7);

a background color information extracting part extracting background information

for a background where said drawing object is formed (col. 5, lines 41-49); and

a controlling part controlling a conversion from said input image information into

said image forming controlling signal based on the type of the drawing object and the

background information (figs. 5-7),

wherein said background information shows a value based on a color as a

reference in the uniform color space of a single color forming image in an area where

said drawing object is formed (col. 5, lines 41-49).

10.   With respect to claim 14, arguments analogous to those presented for claims 1

and 11, are applicable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bollman

as applied to claim 1 above, and further in view of Bottou et al. U.S. Patent No.

5,900,953 (hereinafter Bottou).

11.   With respect to claim 2, Bollman teaches the method as claimed in claim 1, but it

fails to teach expressly that the background information indicates an average of

background colors in an area where said drawing object is formed.

Bottou, the same field of endeavor of color image processing, teaches a method

of determining background and foreground and calculating an average of background

colors in an area where foreground object is form (col.3, lines 25-41).

At the time of the invention, it would have been obvious to one of ordinary skill in

the art to implement the average calculating method of Bottou into the color image

processing system of Bollman.

The motivation/suggestion for doing so would have been to provide a faster

foreground/background convergence process (col. 3, lines 56-57 of Bottou).

Therefore, it would have been obvious to combine Bollman with Bottou to obtain

the invention as specified in claim 2.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bollman as applied to claim 1 above, and further in view of Wang et al. U.S. Patent No. 6,636,628 (hereinafter Wang).

12.   With respect to claim 7, Bollman teaches the method as claimed in claim 1, wherein said input image is a color image and said image forming apparatus is a color image forming apparatus, but Bollman does not teach expressly the step of correcting color, in said input image, located outside of a color reproduction range of said color image forming apparatus to another color located inside of the color reproduction range.

Wang, the same field of endeavor of color image processing, teaches a color reproduction method comprising a step of correcting a color, in an input image, located outside of a color reproduction range of said color image forming apparatus to another color located inside of the color reproduction range (col. 4, lines 11-13 and col. 6, lines 15-16).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the color correction method of Wang into the image processing control method of Bollman.

The motivation/suggestion for doing so would have been to enhance the features of the image to be generated/printed by correctly converting the input color data into the color data which the printer can read (col. 1, lines 36-40 of Bollman and printer gamut in col. 6, lines 61-62).

Therefore, it would have been obvious to combine Bollman with Wang to obtain the invention as specified in claim 7.

13.   With respect to claim 8, the combination of Bollman and Wang teaches the

method as claimed in claim 7, wherein Wang further teaches the color correcting step

controls a direction to compress and map a color, in said input image, located outside of

said color reproduction range to another color located inside of said color reproduction

ranges (col. 4, lines 64-67 and col. 6, lines 37-63).   Thus, when the color data is

controlled in step (a) based on the image type and the background information and the

data is to be sent to a printer 210 of Bollman, one would have been motivated to

implement the color compressing and mapping method of Wang to provide a correct .

color data to the printer.

14.   With respect to claim 9, the combination of Bollman and Wang teaches the

method as claimed in claim 7, wherein Wang further teaches the color correcting step

controls a direction to compress and map a color within a range from a direction

maintaining a hue and a brightness to another direction maintaining a saturation (col. 6,

lines 33-35).   Additionally, Bollman also teaches the method of controlling the

brightness of the image (col. 5, lines 57-62).

        Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of Bollman and Wang as applied to claim 8 above, and further in view of

Bottou.

15.   With respect to claim 10, the combination does not teach expressly that the

background information indicates an average of the background colors in an area where

said drawing object is formed.

Bottou, the same field of endeavor of color image processing, teaches a method of determining background and foreground and calculating an average of background colors in an area where foreground object is form (col.3, lines 25-41).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the average calculating method of Bottou into the color image processing system of Bollman and Wang.

The motivation/suggestion for doing so would have been to provide a faster foreground/background convergence process (col. 3, lines 56-57 of Bottou).

Therefore, it would have been obvious to combine the three references to obtain the invention as specified in claim 10.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bollman as applied to claim 11 above, and further in view of Wang.

16.   With respect to claim 12, arguments analogous to those presented for claim 7, are applicable.

17.   With respect to claim 13, arguments analogous to those presented for claim 8, are applicable.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bollman in view of Wang.

18.   With respect to claim 15, Bollman discloses a computer-readable recording medium recorded with a program for causing a computer to process an image signal, in

which computer input image information for an input image is converted into an image

forming controlling signal for an image forming apparatus (converted signal going from

image quality system 100 to image data sink 210 in col. 3, lines 17-26), said program

comprising the codes of:

determining a type of a drawing object for said input image (col. 2, lines 29-31 &

figs. 5-7); and

extracting background information for a background where said drawing object is

formed (col. 5, lines 41-49),

wherein said background information shows a value based on a color as a

reference in the uniform color space of a single color forming image in an area where

said drawing object is formed (col. 5, lines 41-49).

Bollman, however, does not teach expressly the step of controlling a direction to

compress and map a color, in said input image, located outside of said color

reproduction range to another color located inside of said color reproduction ranges

based on the type of the drawing object and the background information.

Wang, the same field of endeavor of color image processing, teaches the color

correcting step controls a direction to compress and map a color, in said input image,

located outside of said color reproduction range to another color located inside of said

color reproduction ranges (col. 4, lines 64-67 and col. 6, lines 37-63). Thus, when the

color data is controlled in step (a) based on the image type and the background

information and the data is to be sent to a printer 210 of Bollman, one would have been

motivated to implement the color compressing and mapping method of Wang to provide

a correct color data to the printer.

Also read col. 4, lines 11-13 and col. 6, lines 15-16.

Conclusion

19.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

20.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to CHAN S. PARK whose telephone number is (571) 272-

7409. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edward Coles can be reached on (571) 272-7402. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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Business Center (EBC) at 866-217-9197 (toll-free).

                                        Chan S. Park
                                        Examiner
                                        Art Unit 2622

csp
July 1, 2005

                                        EDWARD COLES
                                     SUPERVISORY PATENT EXAMINER
                                        TECHNOLOGY CENTER